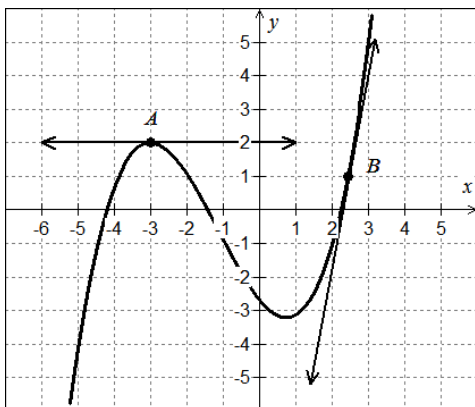
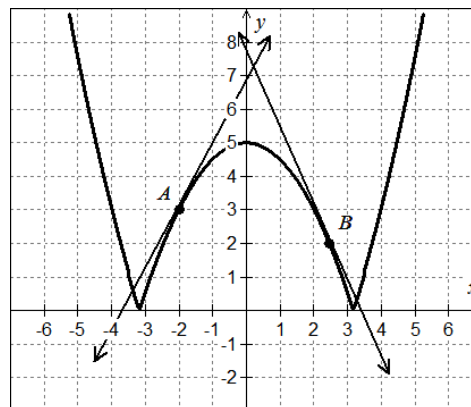


Estimate the slope of the graph at the points A and B .

1.



2.



Find the derivative by the limit process. Use proper notation and algebraic procedures. Then, evaluate at the given point.

3. $f(x) = x^2 - 6$ at $(1, -5)$

4. $f(x) = x^3 - 3x$ at $(0, 0)$

5. $f(x) = \sqrt{x+2}$ at $(-1, 1)$

6. $f(x) = \frac{1}{x^2}$ at $(2, \frac{1}{4})$

Find the equation of the tangent line to the graph of f at the given point, using the problems from questions #3-6. Leave your answer in point-slope form.

7. $f(x) = x^2 - 6$ at $(1, -5)$

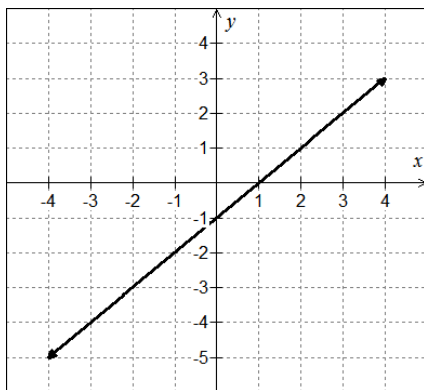
8. $f(x) = x^3 - 3x$ at $(0, 0)$

9. $f(x) = \sqrt{x+2}$ at $(-1, 1)$

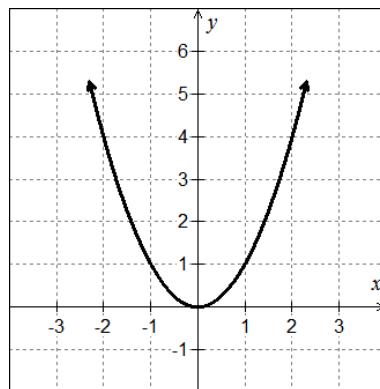
10. $f(x) = \frac{1}{x^2}$ at $(2, \frac{1}{4})$

The graph of f is given. Sketch the graph of f' . Explain how you know.

11.

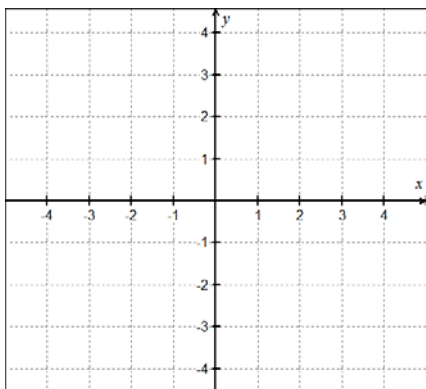


12.



Sketch a graph of a function with the following characteristics.

13. The derivative is always positive.



14. The derivative is increasing everywhere.

